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Idan Avraham

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EXAMINER

SHIH, HAOSHIAN

ART UNIT

PAPER NUMBER

2173

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/691,759

Applicant(s)

AVRAHAM ET AL.

Examiner

Haoshian Shih

Art Unit

2173

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 1-30 are pending in this application and have been examined in response to application amendment filed on 08/22/2007.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 15-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

4. Claims 15-25 recites: "a computer-readable storage medium" There is no mention in the original specification of having "a computer-readable storage medium". Thus, the limitation includes subject matter that was not described in the original specification.

If the examiner has overlooked the portion of the original specification that describes the feature of the present invention, then applicant should point it out (by page number and line number) in the response to this office action.

Applicant may obviate this rejection by canceling the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claim 1, 3-4, 12-13, 15, 17-18 and 26-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Boebert et al. (Boebert, US 5,822,435).**

7. As to **independent** claim 1, Boebert discloses a method for maintaining the security of data displayed on a display for a system comprising a secured execution environment and a second execution environment (fig.2, "trusted subsystem", "untrusted subsystem"), comprising: storing an image of at least one nexus graphical user interface element (col.5, lines 33-36; "trusted window") associated with a first process running on said secured execution environment (col.5, lines 14-18; "trusted path mode"); and displaying said nexus graphical user interface element on said display completely on a display, such that no part of said nexus graphical user interface

element is obscured by a graphical user interface element associated with said second execution environment on said display (col.5, lines 33-43; no parts of the nexus GUI is obscured because the nexus GUI is "overlaid" on top of the screen display.).

8. As to **independent** claim 12, Boebert discloses a method for maintaining the security of data displayed on a display for a system comprising a secured execution environment and a second execution environment, comprising: storing public title information and a private title information for a nexus graphical user interface element associated with a process running on said secured execution environment; using said private title information for window management functions on said secured execution environment when displaying said nexus graphical user interface element; and providing said public title information for use in said second execution environment (col.5, lines 33-43; col.7, lines 20-25; col.8, lines 45-50; private title information is contained in secret information, and the public title information is contained in the unclassified information in order to prevent data of different security level from being mixed).

9. As to **independent** claim 15, Boebert discloses a computer-readable storage medium containing computer executable instructions to maintain the security of data displayed on a display for a system comprising a secured execution environment and a second execution environment (fig.2, "trusted subsystem", "untrusted subsystem"), the computer-executable instructions to perform acts comprising: storing an image of at

least one nexus graphical user interface element (col.5, lines 33-36; "trusted window") associated with a first process running on said secured execution environment (col.5, lines 14-18; "trusted path mode"); and displaying said nexus graphical user interface element on said display completely on a display, such that no part of said nexus graphical user interface element is obscured by a graphical user interface element associated with said second execution environment on said display(col.5, lines 33-43; no parts of the nexus GUI is obscured because the nexus GUI is "overlaid" on top of the screen display).

10. As to **independent** claim 26, Boebert discloses a computer-readable storage medium containing computer executable instructions to maintain the security of data displayed on a display for a system comprising a secured execution environment and a second execution environment, the computer-executable instructions to perform acts comprising: storing public title information and a private title information for a nexus graphical user interface element associated with a process running on said secured execution environment; using said private title information for window management functions on said secured execution environment when displaying said nexus graphical user interface element; and providing said public title information for use in said second execution environment (col.5, lines 33-43; col.7, lines 20-25; col.8, lines 45-50; private title information is contained in secret information, and the public title information is contained in the unclassified information in order to prevent data of different security level from being mixed).

11. As to claims 3 and 17, Boebert discloses displaying said nexus graphical user interface element such that no part of said nexus graphical user interface element is obscured by a graphical user interface element associated with a second process running on said secured execution environment (col.5, lines 33-43; no parts of the nexus GUI is obscured because the nexus GUI is "overlaid" on top of the screen display.).

12. As to claims 4 and 18, Boebert discloses displaying only graphical user interface elements on display upon receipt of a user secure display indication (col.5, lines 27-32).

13. As to claims 13 and 27, Boebert discloses where said second execution environment includes a host window manager for managing graphical user interface elements on said display, where said host window manager creates a shadow graphical user interface element for said nexus graphical user interface element, and where said public title is used by said host window manager (col.5, lines 33-43; col.7, lines 20-25; col.8, lines 45-50; private title information is contained in secret information, and the public title information is contained in the unclassified information in order to prevent data of different security level from being mixed.).

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**15. Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boebert and of Janssen et al. (Janssen, US 6,512,529 B1).**

16. As to claims 2 and 16, Boebert does not disclose ensuring that nexus graphical user interface element contains no areas of transparency.

In the same field of endeavor, Janssen discloses a graphical user interface element contains no areas of transparency. (col.3, lines 23-25);

It would have been obvious to one of ordinary skill in the art, having the teaching of Boebert and *Janssen* before him at the time the invention was made, to modify the secured execution environment interface taught by Boebert to include opaque user interface mode taught by Janssen with the motivation being to ensure proper visibility of the secured execution environment.



**17. Claims 5-6, 7-8, 10-11, 14, 19-20, 21-22, 24-25 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boebert and Ye et al. (Ye, "Trusted paths for browsers: An open-source solution to web spoofing", Feb 4, 2002).**

18. As to **independent** claim 5, Boebert discloses a method for maintaining the security of data displayed on a display for a system comprising a secured execution environment and a second execution environment, comprising: displaying a nexus graphical user interface element, where nexus graphical user interface element is associated with a process running on said secured execution environment (col.4, lines 4-15). Boebert does not specifically disclose storing and display a nexus-user secret associated with said secured execution environment.

In the same field of endeavor, ye, discloses storing and display a nexus-user secret associated with said secured execution environment (Section 4.2 "Synchronized random dynamic boundaries").

It would have been obvious to one of ordinary skill in the art, having the teaching of Boebert and Ye before him at the time the invention was made, to modify the secured execution environment interface taught by Boebert to include synchronized random dynamic boundaries taught by Ye with the motivation being to provide an effective trust judgment about the identity of a graphic interface element in a human-computer interaction environment.

19. As to **independent** claim 7, Boebert discloses a method for maintaining the security of data displayed on a display for a system comprising a secured execution environment and a second execution environment (fig.2, "trusted subsystem", "untrusted subsystem"), comprising: accepting at least two nexus graphical data elements, each associated with a process running on said secured execution environment, for display on said display; and displaying at least two nexus graphical user interface elements, each of said nexus graphical user interface elements comprising one of said nexus graphical data elements (col.6, lines 52- 56). Boebert does not disclose a common graphical user interface decoration.

In the same field of endeavor, Ye discloses a common graphical user interface decoration (Section 4.2 "Synchronized random dynamic boundaries"; same window borders and styles for trusted environment).

It would have been obvious to one of ordinary skill in the art, having the teaching of Boebert and Ye before him at the time the invention was made, to modify the secured execution environment interface taught by Boebert to include synchronized random dynamic boundaries taught by Ye with the motivation being to provide an effective trust judgment about the identity of a graphic interface element in a human-computer interaction environment.

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20. As to **independent** claim 19, Boebert discloses a computer-readable medium containing computer executable instructions to maintain the security of data displayed on a display for a system comprising a secured execution environment and a second execution environment, the computer-executable instructions to perform acts comprising: displaying a nexus graphical user interface element, where nexus graphical user interface element is associated with a process running on said secured execution environment (col.4, lines 4-15). Boebert does not disclose storing and display a nexus-user secret associated with said secured execution environment. Boebert does not specifically disclose storing and display a nexus-user secret associated with said secured execution environment.

In the same field of endeavor, Ye, discloses storing and display a nexus-user secret associated with said secured execution environment (Section 4.2 "Synchronized random dynamic boundaries").

It would have been obvious to one of ordinary skill in the art, having the teaching of Boebert and Ye before him at the time the invention was made, to modify the secured execution environment interface taught by Boebert to include synchronized random dynamic boundaries taught by Ye with the motivation being to provide an effective trust judgment about the identity of a graphic interface element in a human-computer interaction environment.

21. As to **independent** claim 21, Boebert discloses a computer-readable storage medium containing computer executable instructions to maintain the security of data displayed on a display for a system comprising a secured execution environment and a second execution environment, the computer-executable instructions to perform acts (fig.2, "trusted subsystem", "untrusted subsystem"), comprising: accepting at least two nexus graphical data elements, each associated with a process running on said secured execution environment, for display on said display; and displaying at least two nexus graphical user interface elements, each of said nexus graphical user interface elements comprising one of said nexus graphical data elements (col.6, lines 52- 56). Boebert does not disclose a common graphical user interface decoration.

In the same field of endeavor, Ye discloses a common graphical user interface decoration (Section 4.2 "Synchronized random dynamic boundaries"; same window borders and styles for trusted environment).

It would have been obvious to one of ordinary skill in the art, having the teaching of Boebert and Ye before him at the time the invention was made, to modify the secured execution environment interface taught by Boebert to include synchronized random dynamic boundaries taught by Ye with the motivation being to provide an effective trust judgment about the identity of a graphic interface element in a human-computer interaction environment.

22. As to **independent** claim 29, Boebert discloses a system for maintaining the security of data displayed on a display for a system comprising a secured execution environment and a second execution environment (fig.2, "trusted subsystem", "untrusted subsystem"), comprising: secured execution environment storage for storing private title information for a nexus graphical user interface element associated with a process running on said secured execution environment and a nexus-user secret associated with said secured execution environment; second execution environment storage for storing public title information public title information for said nexus graphical user interface element; trusted window manager for displaying each of said nexus graphical user interface elements on said display completely on a display (col.5, lines 33-43; col.7, lines 20-25; col.8, lines 45-50; private title information is contained in secret information, and the public title information is contained in the unclassified information in order to prevent data of different security level from being mixed), such that no part of said nexus graphical user interface element is obscured by a graphical user interface element associated with said second execution environment on said display (col.5, lines 33-43; no parts of the nexus GUI is obscured because the nexus GUI is "overlaid" on top of the screen display). Boebert does not disclose where each of said nexus graphical user interface elements comprises a common graphical user interface decoration and said private title information.

In the same field of endeavor, Ye discloses nexus graphical user interface elements comprises a common graphical user interface decoration (Section 4.2 "Synchronized

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random dynamic boundaries”; same window borders and styles for trusted environment), and private title information (Section 4.2 “Synchronized random dynamic boundaries”, secret information such as the border colors, styles and intervals of the random changes are considered as private title because the private title is used only under a secured execution environment).

It would have been obvious to one of ordinary skill in the art, having the teaching of Boebert and Ye before him at the time the invention was made, to modify the secured execution environment interface taught by Boebert to include synchronized random dynamic boundaries taught by Ye with the motivation being to provide an effective trust judgment about the identity of a graphic interface element in a human-computer interaction environment.

23. As to claims 6 and 20, Ye discloses accepting a user nexus-user secret display indication; and displaying said nexus-user secret (Section 4.2 “Synchronized random dynamic boundaries”; the nexus-user secret disclosed here is having trusted and untrusted color borders representing each of the nexus and the second execution environments).

24. As to claims 8 and 22, Ye discloses common graphical user interface decoration comprises a colored border (Section 4.2, "Synchronized random dynamic boundaries"; Section 5.1 "Adding colored boundaries").

25. As to claims 10 and 24, Ye discloses changing said common graphical user interface decoration when a set time period elapses (Section 5.2 "Making the boundaries dynamic"; the "setInterval" sets the time interval for a change in the graphical user interface decoration).

26. As to claims 11 and 25, Ye discloses changing said common graphical user interface decoration when a user decoration change indication is received (Section 5.2 "Making the boundaries dynamic"; the "example-changeBorder.js" script that is in charge of the border style is set by a user).

27. As to claims 14 and 28, Boebert discloses displaying each of said nexus graphical user interface element on said display completely on a display, such that no part of said nexus graphical user interface element is obscured by a graphical user interface element associated with said second execution environment on said display (col.5, lines 33-43; no parts of the nexus GUI is obscured because the nexus GUI is "overlaid" on top of the screen display). Boebert does not disclose each of said nexus graphical user interface elements comprises a common graphical user interface decoration. Storing a nexus-user secret associated with said secured execution

environment; and displaying a nexus-user secret graphical user interface element comprising said nexus-user secret on said display.

In the same field of endeavor, Ye discloses each of said nexus graphical user interface elements comprises a common graphical user interface decoration. Storing a nexus-user secret associated with said secured execution environment; and displaying a nexus-user secret graphical user interface element comprising said nexus-user secret on said display (Section 4.2 "Synchronized random dynamic boundaries"; same window borders and styles for trusted environment; the nexus-user secret disclosed here is having trusted and untrusted color borders representing each of the nexus and the second execution environments).

It would have been obvious to one of ordinary skill in the art, having the teaching of Boebert and Ye before him at the time the invention was made, to modify the secured execution environment interface taught by Boebert to include synchronized random dynamic boundaries taught by Ye with the motivation being to provide an effective trust judgment about the identity of a graphic interface element in a human-computer interaction environment.

28. As to claim 30, Ye discloses displaying a nexus-user secret graphical user interface element comprising said nexus-user secret on said display (Section 4.2 "Synchronized random dynamic boundaries"; the nexus-user secret disclosed here is



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having trusted and untrusted color borders representing each of the nexus and the second execution environments).

**29. Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boebert in view of Ye and Dhamija (Dhamija, "Hash visualization in user authentication", April 2000)**

30. As to claims 9 and 23, Boebert does not disclose common graphical user interface decoration comprises one or more randomly selected images.

In the same field of endeavor, Ye discloses a common graphical user interface decoration (Section 4.2 "Synchronized random dynamic boundaries"; same window borders and styles for trusted environment).

It would have been obvious to one of ordinary skill in the art, having the teaching of Boebert and Ye before him at the time the invention was made, to modify the secured execution environment interface taught by Boebert to include synchronized random dynamic boundaries taught by Ye with the motivation being to provide an effective trust judgment about the identity of a graphic interface element in a human-computer interaction environment.

Ye does not disclose using one or more randomly selected images.

In the same field of endeavor, Dhamija discloses randomly selected images (Paragraph "A prototype image authentication system");

It would have been obvious to one of ordinary skill in the art, having the teaching of Boebert and Ye, and the teaching of *Dhamija* before him at the time the invention was made, to modify the secured execution environment reorganization interface taught by Boebert and Ye to include random selected images taught by Dhamija with the motivation being to provide an easy to remember and hard to write down trust judgment about the identity of a graphic interface element in a human-computer interaction environment.

### ***Response to Arguments***

31. Applicant's arguments filed 08/22/2007 have been fully considered but they are not persuasive.

32. Applicant argues that Boebert does not disclose "maintaining the security of data displayed on a display" of a system that includes a "secured execution environment" and a "second execution environment".

In response to applicant's argument, Boebert discloses maintaining the security of data displayed on a display by having a trusted window environment (col.5, lines 33-36)

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where data processing under the trusted window environment are encrypted (col.4, lines 16-24), Boebert further disclose of having a second execution environment that is unclassified and the information between different security levels are not mixed (col.7, lines 20-25).

33. Applicant argues that Boebert does not disclose "execution environments, such as operating systems, run side-by-side on a single machine."

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., operating systems, run **side-by-side** on a single machine) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

34. Applicant argues that Boebert does not disclose the user may distinguish between the graphical user interfaces of the execution environments.

In response to applicant's argument, Boebert discloses having a trusted window or a secured execution environment **overlaid** on a screen during a trusted mode (col.5, lines

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33-43, col.8, lines 45-50). A user can therefore know that he or she is working on a trusted window environment.

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haoshian Shih whose telephone number is (571) 270-1257. The examiner can normally be reached on m-f 0730-1700.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (571) 272-4048. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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